

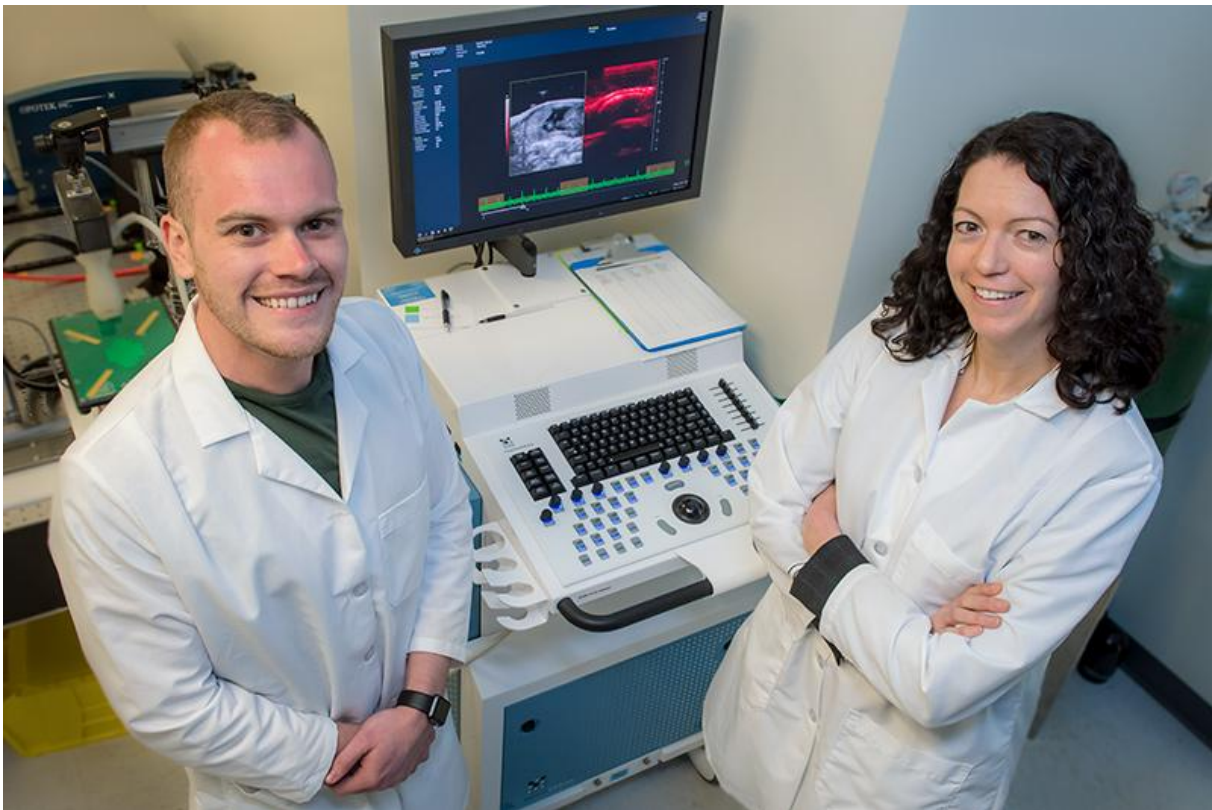
Pregnancy disorder subject of new Tulane study

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Carolyn Bayer, right, assistant professor of biomedical engineering, and biomedical engineering graduate student Dylan Lawrence are among Tulane researchers looking for ways to develop new imaging methods to improve the treatment of preeclampsia, a hypertensive disorder that accounts for 14 percent of global maternal death. (Photo by Sally Asher)

A Tulane University researcher has received a grant that will support the development of new imaging methods to improve the treatment of preeclampsia.

[Carolyn Bayer](#), an assistant professor of biomedical engineering, says the five-year \$1.57 million grant from the Eunice Kennedy Shriver National Institute of Child Health and Human Development will enable her and her team to better determine the impact of specific drugs in the treatment of preeclampsia.

Preeclampsia is a hypertensive disorder that accounts for 14 percent of global maternal deaths annually and affects 5 to 8 percent of all pregnancies. Symptoms may include high blood pressure and protein in the urine and typically occurs after the 20th week of pregnancy.

Typically, a patient with preeclampsia is monitored until the doctor determines that the risks to the mother and fetal health require the baby to be delivered possibly very early during the pregnancy, Bayer said.

“Currently, there are no effective treatments that can be used to prevent preeclampsia from progressing,” she said.

Bayer said she will focus on a combination of two types of medical imaging techniques — contrast-enhanced ultrasound, which uses microbubbles to generate the ultrasound image; and photoacoustic imaging, which uses a short pulse of light to generate the ultrasound image.

“We are using these techniques in our laboratory to assess the impact of specific drugs that may be helpful in the treatment of preeclampsia,” Bayer said. “Using these new imaging techniques will provide more information about whether the drugs are having the desired effect on the placenta.